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Education

PhD, Meteorology, *The Pennsylvania State University*, University Park, PA, 1996
Thesis: *Radar Remote Sensing of Scalar and Velocity Microturbulence*M.S., Meteorology, *The Pennsylvania State University*, University Park, PA, 1989
B.S., Mechanical Engineering, *Brown University*, Providence, RI, 1984

Employment

2007-present	Meteorologist, ZP-IV, NOAA Earth System Research Laboratory, Boulder, CO
1996-2007	Research Associate (RA; Research Scientist III), CIRES, University of
	Colorado/NOAA Earth System Research Laboratory, Boulder, CO
1989–1996	Professional Research Assistant (PRA), CIRES, University of Colorado/NOAA
	Environmental Technology Laboratory, Boulder, CO
1986-1989	Graduate Research Assistant, The Pennsylvania State University, University Park, PA
1984–1986	Engineer, Knolls Atomic Power Laboratory, Niskayuna, NY

Leadership

Lead, Observing System Science Team, Water Cycle Branch, Physical Sciences Division, ESRL

- · Supervise team's federal staff, research, and field activities
- · Manage project budgets
- · Develop new research and initiatives
- · Design observing strategies for instrument deployments used in coastal weather and air quality related field experiments

CIRES Supervisor, University of Colorado

· Develop work plan and evaluate annual performance of five CIRES members within the Water Cycle Branch of NOAA/ESRL

Field Project Management

- · California HMT-Legacy Project
- · TEXAS-2006 Air Quality Study
- · NOAA Coastal Storms Program
- · NOAA Integrated Ocean Observing System
- · NOAA Hydrometeorological Testbed
- · New England Air Quality Studies

- · New England High Resolution Temperature Program
- · TEXAS-2000 Air Quality Study
- · 1999 Southern Oxidants Study

NOAA's Planning, Programming, Budgeting, and Execution System

- · Lead, Weather and Water Science, Technology and Infusion Capability Team Research and Development for Marine and Coastal Weather
- · Co-lead, Weather and Water Science, Technology and Infusion Capability Team Research, Development, and Acquisitions for Observations

Science Team Participation

- · NOAA's Hydrometerology Testbed (HMT) Management Team
- · Rapid Science Synthesis Team for the TEXAS-2006 Air Quality Study
- · Surface Networks Working Group Co-chair for the International Consortium for Atmospheric Research on Transport and Transformation
- · New England Temperature and Air Quality Pilot Study
- · New England Air Quality Study
- · International Transport and Chemical Transformation Experiment
- · Pacific Land-falling Jets Experiment
- · TEXAS-2000 Air Quality Study
- · 1999 Southern Oxidants Study

Research Accomplishments

Air Quality

- Documented the impact of meteorological variability on surface ozone measured during the 2002 and 2004 New England Air Quality Studies
- · Designed and led development of a wind profiler trajectory tool for air quality studies
- · Studied the impact of surface heterogeneity on the summertime morning transition from stable to convective conditions
- · Provided a careful theoretical and experimental examination of the space and time filters inherent in the sampling of pulsed Doppler radars, and modified the established radar filtering equation to account for the time filter
- · Compared measured mixing depths with predictions from 1-D and 3-D numerical models
- Demonstrated the sensitivity of wind profiler measurements to changes in the signal processing parameters, and provided recommendations for how to optimize these parameters for different wind profiling and turbulence applications
- · Developed first method for estimating convective mixing depth using wind profilers
- · Evaluated methods of using wind profilers to measure the turbulence structure of the planetary boundary layers

Coastal Weather

- · Collaborated with NOAA, Scripps, and USGS scientists to develop an observational strategy for improving water resource management in California
- · Led a team of ESRL investigators to evaluate unmanned aircraft as an alternative to multi-spectral imaging from satellites to monitor coastal waters for harmful alga blooms and other water quality issues
- · Invented and patented a snow-level detection algorithm for use with Doppler radars, including commercially available Doppler wind profilers
- · Developed an algorithm that uses radar reflectivity and Doppler vertical velocity measurements to partition different types of orographically enhanced rainfall
- · Designed an operating strategy for the NOAA/ETL S-band radar to capture the full range of radar reflectivities associated with Pacific land-falling winter storms
- · Compiled a summary of the remote sensing techniques used to extract microphysical and turbulence information from radar measurements of maritime clouds
- Developed methods to use wind profilers to measure the turbulence structure of marine boundary layers, including marine boundary-layer depth. First to implement these measures
- · Designed an on-call approach to field operations for the 2004 Hydrometeorological Testbed experiment that allowed for an extended observing period (four months) by saving tens of thousands of dollars in salary and travel expenses

Professional Service

American Meteorological Society Meteorological Air Pollution Committee, 2005-2011 CIRES Committee on Bridge Funding and Sabbatical Leave, 2005 CIRES Members' Council Restructuring Committee, 2004 Environmental Technology Laboratory Strategic Planning Team, 2002-2003 American Meteorological Society Measurements Committee, 2000–2003 Organizing Committee, Radar Calibration Workshop, 2000–2001 Environmental Technology Laboratory Publications Committee, 1998–present CIRES Members Council, 1997–1999

Awards

2013 California Department of Water Resources Climate Science Service Award

2012 NOAA Bronze Medal

2009 NOAA Bronze Medal

2004, 2007 OAR Outstanding Scientific Paper Awards

2008 California Department of Water Resources Climate Science Paper Award

2003 NOAA Bronze Medal

2003 CIRES Outstanding Performance Award

1998 Department of Commerce Silver Medal

Publications

Refereed Journal Articles

- Albrecht, B.A., C.W. Fairall, D.W. Thomson, A.B. White, J.B. Snider, and W.H. Schubert, 1990: Surface-based remote sensing of the observed and adiabatic liquid water content of stratocumulus clouds. *Geophys. Res. Lett.*, 17, 89–92.
- Angevine, W.M., A.B. White, and S.K. Avery, 1994: Boundary layer depth and entrainment zone characterization with a boundary layer profiler. *Bound.-Layer Meteor.*, **68**, 375–385.
- Angevine, W.M., A.B. White, C.J. Senff, M. Trainer, and R.M. Banta, 2003: Urban-rural contrasts in mixing height and cloudiness over Nashville in 1999. *J. Geophys. Res.*, 108(D3), 4092, doi:10.1029/2001JD001061.
- Angevine, W.M., C.J. Senff, A.B. White, E.J. Williams, J. Koermer, S.T.K. Miller, R. Talbot, P.E. Johnston, S.A. McKeen, and T. Downs, 2004: Coastal boundary layer influence on pollutant transport in New England, *J. Appl. Meteor.*, 43, 1425–1437.
- Angevine, W.J., J.E. Hare, C.W. Fairall, D.E. Wolfe, R.J. Hill, W.A. Brewer, and A.B. White, 2006: Structure and formation of the highly stable boundary layer over the Gulf of Maine. *J. Geophys. Res.*, **111**, D23S22, doi:10.1029/2006JD007465.
- Ault, A.P.; C.R. Williams, A.B. White, P.J. Neiman, J.M. Creamean, C.J. Gaston, F.M. Ralph, and K.A. Prather, 2011: Detection of Asian dust in California orographic precipitation. *J. Geophys. Res.*, **116**, D16205, doi:10.1029/2010JD015351
- Banta, R.M., and A.B. White, 2003: Dependence of intra-regional mixing-height difference on wind speed. *J. Geophys. Res.*, **108**, doi:10.1029/2002JD002748.
- Banta, R.M., C.J. Senff, A.B. White, M. Trainer, R.T. McNider, R.J. Valente, S.D. Mayor, R. J. Alvarez, R.M. Hardesty, D. Parrish, and F.C. Fehsenfeld, 1998: Daytime buildup and nighttime transport of urban ozone in the boundary layer during a stagnation episode. *J. Geophys. Res.*, **103**, 22,519–22,544.
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- Chertock, B., C.W. Fairall, and A.B. White, 1993: Surface-based measurements and satellite retrievals of broken cloud properties in the Equatorial Pacific. *J. Geophys. Res.*, **98**, 18,489–18,500.
- Coplen, T.B., P.J. Neiman, A.B. White, J.M. Landwehr, F.M. Ralph, and M.D. Dettinger, 2008: Extreme changes in stable hydrogen isotopes and precipitation characteristics in a landfalling Pacific storm. *Geophys. Res. Lett.*, **35**, L21808, doi:10.1029/2008GL035481
- Creamean, J. M., D. J. Suski, D. Rosenfeld, A. Cazorla, P. J. DeMott, R. C. Sullivan, A. B. White, F. M. Ralph, P. Minnis, J. M. Comstock, J. M. Tomlinson, and K. A. Prather, 2013: Dust and Biological Aerosols from the Sahara and Asia Influence Precipitation in the Western U.S. *Science*, doi:10.1126/science.1227279
- Darby, L.S., R.M. Banta, W.A. Brewer, W.D. Neff, R.D. Marchbanks, B.J. McCarty, C.J. Senff, A.B. White, W.M. Angevine, and E.J. Williams, 2002: Vertical variations in O₃ concentrations before and after a gust front passage. *J. Geophys. Res.*, **107**, 10.1029/2001JD000996.
- Darby, L.S., S.A. McKeen, C.J. Senff, A.B. White, R.M. Banta, M.J. Post, W.A. Brewer, R. Marchbanks, R. Alvarez, and S. Peckham, 2007: Ozone differences between near-coastal and offshore sites in New England: Role of meteorology. *J. Geophys. Res.*, 112, D16S91, doi:10.1029/2007JD008446
- Duck, T.J., B.J. Firanski, D.B. Millet, A.H. Goldstein, J. Allan, R. Holzinger, D.R. Worsnop, A.B. White, A. Stohl, C.S. Dickinson, and A. V. Donkelaar, 2007: Transport of forest fire emissions from Alaska and the Yukon Territory to Nova Scotia during Summer 2004. *J. Geophys. Res.*, 112, D10S44, doi:10.1092/2006JD007716

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- Fairall, C.W., A.B. White, J.B. Edson, and J.E. Hare, 1997: Integrated shipboard measurements of the marine boundary layer. *J. Atmos. Oceanic Technol.*, **14**, 338–359.
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- Jankov, I., J.-W. Bao, P.J. Neiman, P.J. Schultz, H. Yuan, and A.B. White, 2009: Evaluation and comparison of microphysical algorithms in ARW-WRF model simulations of atmospheric river events affecting the California Coast. *J. Hydrometeor.*, **10**, 847–870.
- Kingsmill, D.E., P.J. Neiman, F.M. Ralph, and A.B. White, 2006: Synoptic and topographic variability of northern California precipitation characteristics in landfalling winter storms observed during CALJET. *Mon. Wea. Rev.*, **134**, 2072–2094.
- Lundquist, J.D., P.J. Neiman, B.E. Martner, A.B. White, D.J. Gottas, and F.M. Ralph, 2008: Rain versus snow in the Sierra Nevada, California: Comparing radar and surface observations of melting level. *J. Hydrometeor.*, **9**, 194–211.
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- Neiman, P.J., F.M. Ralph, A.B. White, D.E. Kingsmill, P.O.G. Persson, and D.J. Gottas, 2002: The statistical relationship between upslope flow and rainfall in California's coastal mountains: Observations during CALJET. *Mon. Wea. Rev.*, **130**, 1468–1492.
- Neiman, P.J., P.O.G. Persson, F.M. Ralph, D.P. Jorgensen, A.B. White, and D.E. Kingsmill, 2004: Modification of fronts and precipitation by coastal blocking during an intense landfalling winter storm in Southern California: Observations during CALJET. *Mon. Wea. Rev.*, **132**, 242–273.
- Neiman, P.J., B.E. Martner, A.B. White, G.A. Wick, F.M. Ralph, and D.E. Kingsmill, 2005: Wintertime nonbrightband

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- Nielsen-Gammon, J.W., C.L. Powell, M.J. Mahoney, W.M. Angevine, C.J. Senff, A.B. White, C. Berkowitz, C. Doran, and K. Knupp, 2008: Multi-sensor estimation of mixing heights over a coastal city. J. Appl. Meteor. Clim., 47, 27–43
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- Ralph, F.M., P.J. Neiman, D.E. Kingsmill, P.O.G. Persson, A.B. White, E.T. Strem, E.D. Andrews, and R.C. Antweiler, 2003: The impact of a prominent rain shadow on flooding in California's Santa Cruz Mountains: A CALJET case study and sensitivity to the ENSO cycle. *J. Hydrometeor.*, 4, 1243–1264.
- Ralph, F.M., P.J. Neiman, G.A. Wick, S.I. Gutman, M.D. Dettinger, D.R. Cayan, and A.B. White, 2006: Flooding on California's Russian River: The role of atmospheric rivers. *Geophys. Res. Lett.*, **33**, L13801, doi:10.1029/2006GL026689.
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- Stankov, B.B., E.E. Gossard, B.L. Weber, R.J. Lataitis, A.B. White, D.E. Wolfe, D.C. Welsh, and R.G. Strauch, 2003: Humidity gradient profiles from wind profiling radars using the NOAA/ETL Advanced Signal Processing System (SPS). *J. Atmos. Oceanic Technol.*, **20**, 3–22.
- Stensrud, D.J., N. Yussouf, M.E. Baldwin, J.T. McQueen, J. Du, B.Zhou, B. Ferrier, G. Manikin, F.M. Ralph, J.M. Wilczak, A.B. White, I. Djalalova, J.-W. Bao, R.J. Zamora, S.G. Benjamin, P.A. Miller, and T. Lo, 2006: The New England High Resolution Temperature Program. *Bull. Amer. Meteor. Soc.*, **87**, 491–498.
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- Stutz, J., B. Alicke, R. Ackermann, A. Geyer, S. Wang, A. White, E. Williams, C.W. Spicer, J.D. Fast, 2004: Relative humidity dependence of HONO chemistry in urban areas. *J. Geophys. Res.*, 109(D3), 10.1029/2003JD004135.
- Stutz, J. B. Alicke, R. Ackermann, A. Geyer, A. White, and E. Williams, 2004: Vertical profiles of NO₃, N₂O₅, O₃, and NOx in the nocturnal boundary layer: 1. Observations during the TEXAQS 2000 study. *J. Geophys. Res.*, 109(D3), 10.1029/2003JD004209.
- White, A.B., C.W. Fairall, and D.W. Thomson, 1991: Radar observations of humidity variability in and above the marine atmospheric boundary layer. *J. Atmos. Oceanic Technol.*, **8**, 639–658.

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- White, A.B., C.W. Fairall, A.S. Frisch, B.W. Orr, and J.B. Snider, 1996: Recent radar measurements of turbulence and microphysical parameters in marine boundary layer clouds (invited paper). *Atmos. Res.*, **40**, 177–221.
- White, A.B., C.J. Senff, and R.M. Banta, 1999: A comparison of mixing depths observed by ground-based wind profilers and an airborne lidar. *J. Atmos. Oceanic Technol.*, **16**, 584–590.
- White, A.B., R.J. Lataitis, and R.S. Lawrence, 1999: Space and time filtering of remotely sensed velocity turbulence. *J. Atmos. Oceanic Technol.*, **16**, 1967–1972.
- White, A.B., J. R. Jordan, B.E. Martner, F.M. Ralph, and B. Bartram, 2000: Extending the dynamic range of an S-band radar for cloud and precipitation studies, *J. Atmos. Oceanic Technol.*, **17**, 1226–1234.
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Patents

White, A.B., D.J. Gottas, F.M. Ralph, and P.J. Neiman, 2003: Operational bright-band snow level detection using Doppler radar. *U.S. Patent and Trademark Office.*, U.S. Patent # 6,615,140.

Technical Memoranda

- White, A.B., 1997: A field comparison of the Vaisala CT12K and CT25K ceilometers. NOAA Tech. Memo. ERL ETL-281, NOAA Environmental Technology Laboratory, Boulder, CO, 9 pp.
- White, A.B., 1997: Radar remote sensing of scalar and velocity microturbulence in the convective boundary layer. NOAA Tech. Memo. ERL ETL-276, NOAA Environmental Technology Laboratory, Boulder, CO, 127 pp.
- White, A.B., R.G. Strauch, and C.W. Fairall, 1994: A calibration for measuring C_n^2 with the NOAA/ETL/AL 915-MHz radar. NOAA Tech. Memo. ERL ETL-239Rev, NOAA Environmental Technology Laboratory, Boulder, CO, 17 pp.
- White, A.B., and C.W. Fairall, 1991: Convective boundary layer structure observed during ROSE-I using the NOAA 915-MHz radar wind profiler. NOAA Tech. Memo. ERL WPL-205, NOAA Environmental Research Laboratories, Boulder, CO, 58 pp.

Conference Proceedings and Presentations (not updated since 2006)

- White, A.B., 2006: The meteorological aspects of regional air quality. NOAA Earth System Research Laboratory Dedication, 23-24 August, 2006, invited talk.
- White, A., C. Senff, L. Darby, A. Keane, I. Djalalova, D. White, D. Ruffieux, and S. McDonnel, 2006: A new wind-profiler trajectory tool for weather and air quality applications. *Proceedings*, 7th *Intern. Symposium on Tropospheric Profiling*, 11-17 June 2006, Boulder, CO, NCAR and NOAA, poster presentation.
- White, A.B., 2006: Improving coastal wind observations for IOOS. IOOS Focus Group Colloquium, 17-18 May, 2006, Silver Spring, MD, oral presentation.
- White, A. C. Senff, A. Keane, D. Ruffieux, and S. McDonnel, 2006: A wind profiler trajectory tool for air quality transport applications. *Proceedings CD*, 14th Joint Conf. on the Applications of Air Pollution Meteorology with the Air and Waste Management Association, 29 January 2 February, 2006, Atlanta, Georgia, AMS, Boston.
- White, A.B., C.J. Senff, L.S. Darby, J. Koermer, and R. Talbot, 2005: Comparing meteorological controls on air quality during the NEAQS (2002) and ICARTT (2004) field campaigns. AGU Fall Meeting, San Francisco, CA.
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